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ABSTRACT

The author states that our present teaching methods tend to foster a common intellectual skill: thinking the world to pieces, and that while this skill is very essential, it is only half of understanding. Our planet functions not according to a program of technological reductionism, but as a gestalt, and we are in desperate need of perceiving it that way and behaving accordingly. Therefore, we must develop a new curriculum to complement the existing one--a curriculum for teaching the earth whole. A number of programs and projects are emerging which will enable us to do this. The author briefly describes some of these efforts: 1) the multidisciplinary program, Total Educati in the Total Environment; 2) a similar project now underway in Putnam and Westchester Counties in New York; 3) the program of the Institute for Environmental Education in Ohio; and, 4) the college curriculum Man and Environment. Names and addresses of those to contact for further information about each program are provided. (Author/JLB)

TEACH THE EARTH WHOLE

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Our present teaching methods, at all levels of education, tend to foster a common intellectual skill: thinking the world to pieces. This skill is very essential. Analysis, reductionism, specialization, departmentalization--our various techniques for fragmenting our knowledge of the world have made possible and continue to make possible humankind's technological progress. We would not want to abandon our ability to think the world to pieces. As one of history's most sensitive ecologists put it, "The first law of intelligent tinkering is to save all the parts."

But thinking the world to pieces is only half of understanding. We relate to our world in the manner that we perceive it. Having been taught mostly to <u>think</u> the world to pieces, is it any wonder that we are now tearing it to pieces?

Our planet, as well as its occupants, does not function according to the program of technological reductionism with which we have attempted to master it. As a result, our behavior is currently on a collision course with our own being.

The planet's program is one of synthesizing parts into wholes. Our educational program, and thus the subsequent behavior of those who go through it, is largely one of reducing wholes into parts. If the latter program accompanied a synthesis which fostered human behavior compatible with the planet's

program, our education would be complete. But if we continue our almost exclusive preoccupation with reducing wholes into parts, in our studies and tinkerings with the planet, we may become one of the parts not saved.

We are desperately in need of perceiving the planet as a gestalt. The world ultimately holds together in our perception of it, if we are to hold with it. No institution presently does more to shape/misshape our perceptions of the world than our schools. Therefore, the major burden for the creation of a planetary world view rests upon those who teach.

At present, any student who emerges from our schooling with some sense of how the world holds together does so in spite of our teaching. Present and subsequent generations must obtain such perception as an integral function of their education.

If we are to think the world together, to comprehend (com=together; prehend=take) it as a single fabric, we must develop a new curriculum to complement the existing one. We must develop a curriculum for teaching the earth whole.

Fortunately, we have a basis for the development of such a curriculum. A few of our number have forged their way to the moon, and have brought back with them something infinitely more precious than cosmic data and lunar rocks. They brought back pictures of our earth, our whole earth, a tiny, fragile, but beautiful speck of life in a vast, dark, lifeless void. And it has become common to refer to our minute oasis of life as "Spaceship" Earth.

And spaceship it is. Earth, like the Apollo crafts, is an oasis of life in an almost lifeless universe. And, like the Apollo crafts, Earth now requires intelligent human direction if it is to remain safe for (and from) human habitation. Whether or not we apply the metaphor explicitly, we must come to the implicit understandings there in: Earth is limited in both resources and tolerance for stress; destructive behaviors ultimately feed back upon and destroy their source; parts can be sacrificed only at great peril, even when they are redundant, because within a finite system security lies in having fully functional, automatic, alternative back-up systems at hand when something happens beyond our control.

Earth is infinitely more sophisticated than any spacecraft we will ever create with our technology. Earth is an organic spaceship. It lives. Like all of its subsystems, Earth as a whole is performing essentially one task which incorporates all others. Earth is impounding and transforming solar and cosmic energy (178 trillion kilowatts daily) and matter (100,000 tons of stardust daily), synthesizing the dissipations of the sun and the stars into an increasingly complex, progressively ordering phenomenon which we call, simply, life.

Life. Increasingly complex. Progressively ordering. And ultimately social. The Apollo flights are the most intensive and extensive conscious social phenomena our planet has evolved. Millions of people in thousands of firms, thousands of people in hundreds of delivery systems, and yet thousands

more in dozens of control systems, eventually put three of their number on the moon.

Nobody can build a spaceship. Nobody can navigate one. The giant step for humankind was a social one. It was a scientific achievement. It was an (at times) artful production. But it was a social act. The "two cultures" merge in no other form.

Our new curriculum for thinking the world together, for teaching the earth whole, will be a social one. For us, the world holds together or does not hold together in the social act. The Spaceship Earth Curriculum, by any other name, will have its students doing things together, as well as studying things alone. Their subject matter will be the world at (their) hand, and the disciplines of knowledge will be applied to their world rather than--as at present--serve as a substitute for their world.

Forerunners of a Spaceship Earth Curriculum

A number of programs and projects are emerging which will enable us to teach/learn the Earth whole. Of these the most ambitious is TOTAL EDUCATION IN THE TOTAL ENVIRONMENT, a program developed in Wilton, Connecticut and the Hudson River Museum, Yonkers, New York, and currently spreading nationwide through a series of regional workshops. Combining multidisciplinary teaching and community involvement, TETE seeks the development not of a new curriculum but rather a completely new multidisciplinary approach to existing curricula. To quote the program's director:

In applying the TETE approach, basically, three steps are taken:

1. Relating all the school disciplines and community interests to objects and events in the local environment. This seems to have the highest relevance to participants because the local environment is an integral part of each person's life.

2. A multidisciplinary sharing and comparing of the observations made through the different disciplinary and community skills in order to achieve a dynamic view of the whole.

3. Projecting by analogy these readily available understandings of the local environment content-in-process to yield relevant understandings of other environments more distant in time and space.

The major goals of the project are to: 1) stimulate and assist in the development of cooperative total environment education programs among community agencies, school systems, private concerns and state and national governmental agencies; 2) encourage and assist school systems in the development of curriculum materials that stress a multidisciplinary approach to environmental education; 3) demonstrate that a basic understanding of the natural ecosystem is necessary background for a study of the ecology of man and; 4) demonstrate the relationships between ecological studies, social values, and personal attitudes and ethics in order to reexamine the place and role of man in his total environment.

Further information about TETE is available from William R. Eblen, Director TETE, Hudson River Museum, 511 Warburton Avenue, Yonkers, New York 10701.

Similar to the TETE program is a project just getting underway in Putnam and northern Westchester counties in New York. Under supervision of their Board of Cooperative Educational Services, twenty school districts, serving 60,000 students, will be assisted in the development of new curriculum

models which integrate such features as multidisciplinary synthesis, community involvement, civic action, and comprehensive environmental monitoring. Further information is available from Dr. Frank Thompson, BOCES, 845 Fox Meadow Road, Yorktown Heights, New York 10598.

At the high school level, the Institute for Environmental Education, in Ohio, has over the past four years evolved models for teaching the earth whole. Students in this curriculum learn science by doing it, "it" being an intensive study of local environmental problems, synthesizing with an understanding of their global context a like understanding of the human activities, local ecological factors, and the social, economic and political factors which affect and are affected thereby. Further information about this curriculum is available from the Institute for Environmental Education, 2803 Scarborough Road, Cleveland Heights, Ohio 44118.

A multidisciplinary survey curriculum on environment, for college freshmen and sophomores, has been developed by a group of 100 faculty representing all disciplines. This curriculum project was initiated by 22 community colleges, and now has the participation of over 200 colleges and universities. The project has also given rise to a new professional organization, the National Association for Environmental Education.

The basic manual for this college curriculum, Man and Environment, will be published by Prentice-Hall early in 1972, and it is estimated that 1,000,000 students will be involved in

the curriculum by 1974. The curriculum is modular, requires a faculty team effort for implementation, lends itself to community participation and civic action, and features an ongoing curriculum materials and ideas exchange among the colleges using it. The Man and Environment curriculum will be telecast this fall on open circuit TV in the Miami area by Miami-Dade Junior College, and will probably be telecast in other metropolitan areas in the near future. Further information about the Man and Environment curriculum is available from Dr. Robert McCabe, NAEE, 11011 S.W. 104th Street, Miami, Florida 33156.

Just as thinking the world to pieces is only half of understanding, so teaching is only half of the educational process. There is a growing emphasis in recent years on the learner's initiative, and those who view education from this perspective will find helpful the forthcoming Alternative Futures Learning Directory to be published in Spring, 1972 (Swallow Press, 1139 South Wabash, Chicago, Illinois 60605). The directory will concentrate largely upon resources for learning other than schools, but it will also include accredited programs which radically depart from school as usual. A common characteristic of the numerous centers, skills, networks, media, and ideas cited therein will be their tendency to nurture our capacity to think the world together.